



University of Idaho

College of Mines and  
Earth Resources  
Moscow, Idaho 83843

March 26, 1985

David Adams  
Geological and Geophysical Surveys  
794 University Ave., Basement  
Fairbanks, Alaska 99701

Dear David:

Enclosed is my report on the fossil plant collections you sent some months ago. They are very fragmentary and cannot be determined to level of species. They do, however, appear to represent a medial Tertiary age and probably are correlative with the Seldovian of the Kenai area: Early to Middle Miocene.

I was off-campus for most of the later part of last year, and returned just a few weeks ago to a big pile of work. I hope the delay in reporting to you has not seriously affected your work. If you send more samples, please take into account that I am now employed at U. Idaho only half-time, and that I may be away for weeks on end. I remain much interested in working with you people on Alaskan geology, but you should know that there may be some delay in reporting back to you.

Sincerely,

*Charles J. Smiley*  
Charles J. Smiley  
Professor of Geology

Report on D. Adams collections of Alaskan plant fossils, by C. J. Smiley.

83 Ad 231 (sand matrix):

Fragments of bark and stems - unidentifiable.

Graminites sp. (appear to be small fragments of grass blades).

?Conites sp. (terminal cone-like structures, details not preserved).

?Populus sp. (small fragment of leaf, possibly a poplar).

Small fragments of different dicot taxa, not identifiable (these dicot leaf fragments were fragmented and abraded during transport prior to burial).

Stream fragmented dicot leaves indicates some turbulence during transport.

83 Ad 231 (black shale matrix):

Equisetum sp. (fragments of horsetail stems).

Common Equisetum stems in carbonaceous shales suggest little or no transport and wet (perhaps boggy) soil conditions.

83 Ad 330 (matrix and leaf preservation the same as at site 83 Ad 331e):

Conifers (very small pieces of needled shoots):

Metasequoia sp.

Glyptostrobus sp.

Dicot, small leaf fragments: Cocculus sp.

83 Ad 331e (laminated sandy matrix: secondary deposition of volcaniclastics?):

Small fragments of dicot leaves, apparently deposited as complete leaves showing little evidence of abrasion by transport. One leaf was wrinkled and folded over (probably by drying in air prior to burial), with seeds deposited in space between folded-over parts of the leaf. Leaf surfaces are carbon-coated indicating little oxidation after burial. The combined evidence is suggestive of <sup>rapid</sup> stream deposition of sandy material close to where the plants lived. Although the leaf fragments are too incomplete for positive identification, they appear to represent a species of poplar (Populus sp.) - a type of plant that commonly grows in riparian sites.

This combination of plant taxa is indicative of Tertiary floras in the southern part of Alaska (see Wolfe, 1966, USGS P. Paper 398-B), especially those from the Kenai flora. They most probably represent his Seldovian stage in the lower part of the Kenai Fm., which is considered to be Early to Middle Miocene in age. A collection of more complete and species-distinctive leaves would be necessary for a more positive correlation.